

Emerging Technologies for Affordable, Energy Efficient and Green Housing

Energy Efficient, Affordable Housing: Making the Connection

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Financing Affordable, Energy Efficient and Green Housing

State of California
Department of Housing & Community
Development
Housing Policy Division





Financing: Energy Efficient Housing

Direct Resources (to fund projects):

- Federal
 - Grants/Loans (Dept of Energy, HUD)
 - Tax Credits
- California
 - Grants/Loans (HCD, CalHFA, Energy Commission, Public Utilities Commission)
 - Tax Credits
- Local Government
 - Grants/Loans (Redevelopment/Housing Trust/Other)
- Other
 - Utility Companies
 - Foundations, Non-Profit, & Builder Organizations

HCD Financing Program Examples (Prop 46)



- Multifamily Housing Program (MHP):
 - \$779mm
 - 3% simple interest, deferred payment, 55 yr term loans
 - Emphasis on deep income targeting, special needs, & large families
 - As of June 2005:
 - Awards: \$582mm
 - Projects: 142
 - Rental Units: 10,210
- BEGIN (Building Equity & Growth in Neighborhoods):
 - \$72mm
 - Grants to locals that reduce barriers/provide incentives
- Farmworker & Migrant Housing Programs:
 - \$119mm
 - Finances construction, rehabilitation, & acquisition of units



Other Resources Facilitating Housing

Indirect Resources (project cost savings)

- California Housing Element Law - Jurisdictions must:
 - Analyze & Mitigate Constraints to Development
 - Analyze Opportunities for Energy Conservation

- Local Government Actions
 - Design & Development Guidelines & Programs
 - Incentives/Waivers (fees/requirements)
 - Expedited Permit Processing

Local Jurisdictions with Programs that Help Finance/Facilitate Green Development

Examples of some cities and counties that have funded and/or developed Sustainable Building Programs to promote Green Development.

City

Berkeley

Fremont

Los Angeles

Oakland

San Diego

San Jose

Santa Monica

San Francisco

County

Alameda

Contra Costa

Marin

San Diego

San Mateo

Santa Barbara

Sonoma





Alameda County Green Building Program

Multifamily Green Building Guidelines Provide:

- Cost-effective suggestions.
- Methods to reduce building impacts.
- Case Studies.
- Resource Directory.

Alameda County Offers:

- Technical Assistance and Grants.
- Education.



Santa Monica Green Building Program

1. Green Building Ordinance provides prescriptive energy-saving measures for small residential projects and energy performance targets beyond Title 24 for all larger residential projects.
2. Construction and Demolition Waste Recycling Ordinance: requires reducing solid waste from construction related activities.
3. Green Building Design and Construction Guidelines: requires and recommends practices to reduce life-cycle environmental impacts associated with construction.



Emerging Efforts (Financial Incentives):

Incentives Promoting Energy Efficient Housing:

- Energy Efficient Mortgages: Lenders enable buyers to afford higher price from increased borrowing due to decreased energy costs.
- Multifamily Project Affordable Rent Setting: Project receives higher rents due to lower energy cost adjustment.
- Emerging Renewables Buy-Down Program: CA Energy Commission and Utility Co. rebates to homeowners who install energy generation equipment.



Emerging Efforts (State Initiative):

- State Law: requires Energy Commission to expand and accelerate development of alternative sources of energy, including solar resources.
- California Solar Initiative (Proposed Senate Bill 1): solar is uniquely suited to CA to produce electricity at peak summer demand hours when air conditioners are running at capacity.



Emerging Efforts (State Initiative):

SB 1 (introduced 2005) as amended May 8, 2006:

Examples of Some Major Provisions of CA Solar Initiative:

- Developers to offer buyers the option of a solar energy system.
- Energy Commission to initiate a public proceeding determining whether, and under what conditions, solar energy systems should be required on new residential and nonresidential buildings.
- Public Utilities Commission to award monetary incentives (up to the 1st megawatt of alternating current generated by an eligible solar energy system) in meeting criteria established by the Energy Commission.



Emerging Efforts (State Initiative):

CA Solar Initiative Goals

- Facilitate installation of solar energy systems to realize substantial energy reliability and pollution reduction benefits.
- 4 years: PUC (in consultation with the Energy Commission) to report to the Governor and Legislature on costs and benefits of net energy metering, wind energy co-metering, and co-energy metering.
- 10 years: solar peak electricity generation can be procured without need for rebates.
- 13 years: solar energy systems placed in 50 percent of new homes.

Example: Affordable, Green Housing

Colorado Court (2001): Santa Monica

44 Units: 22 Low, 22 Very-Low

100% Affordable and 100% Green!



Photo Courtesy of Community Corporation of Santa Monica



Example: Colorado Court - Financing

- State HCD (MHP) loan of \$1.6 million (25% of cost)
- City of Santa Monica (Public Works Department paid for storm water retention system).
- Regional Energy Efficiency Initiative (REEI): joint program (So. Cal Edison & city) for demonstration proj
- Affordable Housing Program
- Bank of America



Example: Colorado Court - Some Green Features

- Exceeds Title 24 standards by 50%.
- Design focused on features, materials, and energy efficient systems addressing building impact on:
 - Site
 - Water use
 - Resource use, and
 - Tenant health and well being.
- Building designed to meet many rigorous LEED (Leadership in Energy and Environmental Design) rating system criteria developed by the U.S. Green Building Council.

Example: Colorado Court - Energy Generation

- Photovoltaic (PV) panels integrated with building facade.
- A 28 kW natural-gas-powered turbine with cogeneration (waste heat recovery) system operates in the early morning and evening hours.
- Low-emission system's conversion efficiency approximates 70%.



Photo Courtesy of Community Corporation of Santa Monica

Example: Affordable, Green Housing

Folsom Dore Apartments (2005): San Francisco

- 98 Special Need Units for Very-Low and Low Income
- Examples of Financing Sources:
 - HCD (MHP) funded \$5.2mm (approx 20%)
 - Tax Credits and Tax-Exempt Bonds
 - Federal Affordable Housing Program Grant
 - Local funds (Mayor's Office of Housing)
- Examples of Green Features:
 - Exceed Title 24 Energy Standards by 20%
 - Photovoltaic System
 - Recycled-content building materials
 - Water conservation
 - Increased in-door air quality



**California Department of Housing and
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